

*An integrated unit
focusing on the
management
decisions regarding
one of Arizona's
major predators*

Mountain Lions in Arizona

Lesson 1: The Lion as Predator – Agile as a Cat

LESSON OVERVIEW

In this lesson, students will learn about some key adaptations that make the mountain lion an effective predator. They will do this by comparing the ability of mountain lions to perform certain actions, such as jumping and listening, with the ability of humans to perform the same actions.

SUGGESTED GRADE LEVELS

- 6 – 12

ENDURING UNDERSTANDINGS

- All organisms have adaptations that allow them to survive in particular environments.

OBJECTIVE

Students will:

- Work in small groups to analyze data.
- Perform a variety of simple actions.
- Compare abilities of mountain lions and humans.

ARIZONA DEPARTMENT OF EDUCATION STANDARDS

Grade	Science	Social Studies
6	S1-C2-04	None
7	S1-C2-04; S1-C3-05; S4-C3-02	None
8	S1-C2-04; S1-C3-05; S2-C2-04; S4-C4-01	None
High School	S1-C3-06; S1-C4-04; S4-C4-02	None

Note: The full text of these standards can be found in Appendix A.

TIME FRAME

- 1 – 2 days (45 minutes each day)

MATERIALS

- *Are You as Agile as a Cat?* worksheet (1 per student)
- Meter sticks and tape (1 per group)
- Butcher paper (1 sheet per group)
- Protractors (1 per group)
- Markers (1 set per group)



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- Calculators (1 per group)

TEACHER PREPARATION

- Make a copy of the *Are You as Agile as a Cat?* worksheet for each student.
- Gather materials.

SUGGESTED PROCEDURES

1. Ask students: In what ways are mountain lions and humans similar? They can answer in the form of a journal entry or a class discussion. Discuss some student answers.
2. Explain to students that today they will be making comparisons between their abilities and those of mountain lions.
3. Hand out the *Are You as Agile as a Cat?* worksheet.
4. Read the first two paragraphs as a class or individually.
5. Briefly explain the assignment and each of the activities that students will be completing. Review how to use a protractor to be sure all students understand.
6. Divide the students into groups of three or four.
7. Allow the students to work. Check on groups periodically to ensure that all students are participating. Students may need two days to complete all of the activities.
8. After all groups have finished the activities, ask for volunteers to share their concluding paragraphs.
9. Collect the *Are You as Agile as a Cat?* worksheets.

ASSESSMENT

- *Are You as Agile as a Cat?* worksheet
- Class discussion

EXTENSIONS

- Students can construct a Venn diagram to compare mountain lions with humans.
- Students can study domestic cats, either through observation of their own pets or through the Internet, to identify ways in which they are similar to wild cats, such as the mountain lion.
- Encourage students to participate in the *Hot Topics Campfire Chat* with their parents at home.



Appendix A: Arizona Department of Education Standards – Full Text

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Science Standards

Grade	Strand	Concept	Performance Objective
6	1	2 – Scientific Testing	4 – Perform measurements using appropriate scientific tools
7	1	2 – Scientific Testing	4 – Perform measurements using appropriate scientific tools
		3 – Analysis and Conclusions	5 – Formulate a conclusion based on data analysis
	4	3 – Populations of Organisms in an Ecosystem	2 – Explain how organisms obtain and use resources to develop and thrive in predator/prey relationships
8	1	2 – Scientific Testing	4 – Perform measurements using appropriate scientific tools
		3 – Analysis and Conclusions	5 – Explain how evidence supports the validity and reliability of a conclusion
	2	2 – Nature of Scientific Knowledge	4 – Explain why scientific claims may be questionable if based on very small samples of data
	4	4 – Diversity, Adaptation and Behavior	1 – Explain how an organism's behavior allows it to survive in an environment
High School	1	3 – Analysis, Conclusions, and Refinement	6 – Use descriptive statistics to analyze data, including mean
		4 – Communication	4 – Support conclusions with logical scientific arguments
	4	4 – Biological Evolution	2 – Explain how genotypic and phenotypic variation can result in adaptations that influence an organism's success in an environment



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Appendix B: Worksheets and Overheads

The pages that follow contain the worksheets listed below:

- A. *Are You as Agile as a Cat?* worksheet – Describes lab procedures, provides data tables and sound maps for the students to fill out, poses questions, and provides space for answers. (3 pages)

